NATIONAL WILDLIFE REFUGE SYSTEM INVENTORY & MONITORING REGIONAL ANNUAL REPORT

MOUNTAIN-PRAIRIE REGION 6 FY 2011

1. Introduction

1.1.Present the vision, goals, and objectives for the regional I&M Initiative.

When the new Inventory & Monitoring (I&M) program was implemented, the new I &M program was integrated with the regional refuge biological program and together they are referred to as the Division of Biological Resources (DBR). The primary vision of the DBR is to build a biological framework that is based on management needs and to work collaboratively with partners and FWS programs to develop products that support management decisions at multiple spatial scales. In addition, the Region 6 DBR contributes to achieving National I&M Program goals and objectives. We recognize that the NWRS I&M Program is NWRS centric, but it is not refuge exclusive because collaborative efforts, when priorities and needs overlap, provides valuable information for other Service programs, LCCs, and our conservation partners. In addition, the staff recognizes that the use of an adaptive process driven by local, regional, and national needs to determine program direction is essential to ensuring long-term success and effectiveness.

1.2. Briefly describe how the regional I&M Initiative is organized with emphasis on the previous FY work activities.

In Fiscal Year 2011, the primary goal of DBR staff was to engage and communicate with field stations, to assess their biological and science needs in order to provide tools, resources, and databases that help field station staff manage the resources to meet goals and objectives identified in their Comprehensive Conservation Plans and Habitat Management Plans. To this end, the staff focused on conducting station visits to engage and educate I&M staff on field station management issues and to communicate to the field stations about the new I&M program. The field station visits also served other purposes: to assess biological and science needs at the field stations; and to conduct Part I of the draft Inventory and Monitoring Policy. Other tasks (Table 2) that were implemented in FY11 work plan were informed by input from field station staff and regional priorities. In addition, to ensure that the goals and objectives of the National I&M Program were addressed, the Region 6 I&M staff also worked diligently to address a subset of Phase I tasks identified in the *Operational Blueprint for Inventories and Monitoring on National Wildlife Refuges – Adapting to Environmental Change*. The DBR staff provided support and assisted the National Office staff with development of guidance and databases, data calls, and various reporting needs.

1.3. Briefly describe how the regional I&M Initiative integrated with the regional refuge biological program.

See above section 1.1. General operating principles of the DBR program were developed based on existing Service policies and I&M Program guidance documents (the *Strategic Plan for*

Inventories and Monitoring on National Wildlife Refuges: Adapting to Environmental Change (hereafter the *Strategic Plan*); the *Operational Blueprint for Inventories and Monitoring on National Wildlife Refuges – Adapting to Environmental Change; Business Addendum to the Strategic Plan*). The division's primary function is to assist field stations and collaborate with other R6 programs to define clear conservation and management objectives, to provide assistance and products to achieve those objectives, as well as to evaluate progress in achieving those objectives. As stated above, we recognize the value and benefits of collaborating and leveraging resources with other FWS programs and partners; hence, we strive to work closely with those programs to achieve and contribute to large landscape scale conservation goals and objectives.

1.4. Briefly describe how the regional I&M Initiative coordinates with the other regional FWS programs (Migratory Birds, T&E Species, Ecological Services, Fisheries, and LCCs) as well as other federal and state conservation partners. What role does the regional I&M Initiative serve within the LCC?)

The DBR staff recognizes the values in collaborating and leveraging resources with FWS programs and conservation partners through the Landscape Conservation Cooperatives (LCCs) as well as outside of the LCCs. We have conducted formal and informal meetings with the Divisions of Water Resources and Refuge Planning, Fisheries Program, Wildlife Health, and HAPET staff to discuss priority needs and opportunities to collaborate in inventory and monitoring projects, database development, and sharing of resources. Furthermore, the DBR staff served in various capacities as members of the Technical or Advisory Teams in the Southern Rockies, Great Plains, Great Northern, and Plains and Prairie Pothole LCCs. In doing so, our staff attended meetings, conference calls and webinars, gave presentations, reviewed proposals, and participated in planning of various meetings. Tasks in Table 2 specify the results of these collaborative efforts.

2. Public Interest Highlights

2.1. Below are highlights of accomplishments from Table 2 that are related specifically to projects and efforts that resulted in support of refuges, Wetland Management Districts, and regional goals and objectives.

- Comprehensive Conservation Plans (CCPs for Benton Lake, Lake Andes, San Luis Valley Complex, Quivira, Cokevill Meadows, Charles M. Russell, and Ouray refuges)
- Habitat Management Plans (HMPs for Kulm WMD, Fish Springs, Rocky Mountain Arsenal, Flint Hills, LaCreek, Marais des Cygnes)
- Inventory and Monitoring Plans (I&M staff secured contract to develop HMPS for Kulm and Fish Springs refuges and staff will develop draft IMPs simultaneously with HMPs)
- Hydrogeomorphic assessment (Quivira, Baca, Monte Vista, and Alamosa refuges)
- Water Resources Inventory and Assessment (WRIA) on Quivira NWR.
- Adaptive Management (AM) Projects:
    - Native Prairie AM Project: Cooperative effort between USGS and FWS*19 stations are participating across MN, ND, SD, and MT with 122 management

units Field stations are doing the monitoring of individual units, and implementing the recommended management actions

- DBR staff worked with North Dakota State University, University of North Dakota, South Dakota State University to assist with research and data analysis
- Reed Canary Grass AM Project
  - 3 stations involved from R6
  - Hand-off to FWS will likely take place in 2012
- Cattail control multi-station study: draft final report and manuscript was completed by USGS scientist (Northern Prairie WRC) and reviewed by co-PIs Murray Laubhan and Soch Lor.
- Prairie Reconstruction AM Project
  - 4 stations involved with associated research and monitoring efforts across Zone
- Working with North Dakota State University, University of North Dakota, South Dakota State University to assist with research and data analysis DBR staff provides coordination, data management, and partnership development
- Assisted RRL NWR and Montana Fish, Wildlife and Parks (MFWP) in drafting an adaptive harvest plan for moose. Conducted analyses, designed database. Submitted the 2009 ungulate browse work as a Biological Technical Publication; If published, it will function as our methodology to share with others interested in monitoring browse.
- Collaborated with USGS NPWRC/Native Prairie AM project/Sean DeKaiser/Caitlin Smith to develop protocol for monitoring effects of fire on habitats
- Worked with ND and SD Range Research Pipeline (submitted a proposal for grant to study fire, grazing,etc with a focus on KY blue in the 2 states)
- I&M zone biologist led the GNLCC Tri-state trumpeter swan proposal (participants included RRL NWR; Gray's Lake NWR; ; IWJV; HAPET; OMBM; Idaho Department of Fish and Game; Wyoming Fish and Game; Montana Fish, Wildlife and Parks).
- I&M zone biologist assisted with Bear River Watershed Conservation Area planning team in selecting focal species and modeling focal species core areas to target conservation actions.
- Zone biologist consulted with The Nature Conservancy and BLM on analysis of survival and habitat selection of radio-marked sage grouse (GNLCC priority species).
- Zone biologist consulted with Missoula Grizzly Bear Recovery Office on analysis of grizzly bear body condition (GNLCC priority species).
- Zone biologist assisted RRL NWR with establishing a graduate project at University of Montana Cooperative Wildlife Research Center.
- Dakota Zone conducted several training and information sharing workshops and meetings:
  - Basic Vegetation Monitoring Sessions

        - South Dakota Session – 50 participants, including biologist, managers, fire staff, maintenance staff, seasonal staff, and TNC staff
        - North Dakota Session – 30 participants, including biologist, managers, fire staff, seasonal staff
        - Native Prairie Adaptive Management Project Monitoring Training sessions
            - South Dakota Session – 20 participants
            - North Dakota Session - 20 participants
        - Grazing and Wildlife Workshop, Bismarck, ND
        - Organized with ND Grazing Coalition
            - 35 participants, including biologists, managers, fire staff, and seasonal staff, staff of the North Dakota Game and Fish Department, and staff of the Natural Resources Conservation Service (MD and MT)
        - Prairie Reconstruction Workshop, Madison, SD
            - 68 participants including FWS staff from R3 and R6, ND Game and Fish Department, South Dakota Game Fish and Parks, TNC, University of North Dakota, North Dakota State University, South Dakota State University, USGS
        - Coordinated 2 workshops as part of a series sponsored by NCTC on "Structured Decision Making Workshops for Landscape Conservation Cooperatives" topics. The workshops are 1) Developing a landscape scale framework for integrated grassland bird conservation and monitoring; 2) Developing a decision framework and communications structure to identify conservation priorities and science needs across FWS programs and for delivery to LCCs
- I&M coordinator serves on planning committee for the Ecological Society of America's Emerging Issues in Ecology Conference entitled "Developing Ecologically-Based Conservation Targets Under Global Change" to be held at NCTC, March 2012.
- Zone biologist collaborated with USGS staff on submergent aquatic vegetation (SAV) analysis and sample design with the ultimate goal of having a workable monitoring protocol for refuges interested in SAV monitoring.
- I&M staff conducted station visits and I&M review for the purpose of:
    - Assessing priorities of CCP objectives
    - Assessing current inventory, monitoring, and studies on the refuge
    - Assessing biological information and science needs to inform management decisions
    - Obtain habitat and wildlife survey information to populate the PRIMR database to roll up field station needs to the regional and national level and also to conduct Part I of the draft I&M Policy.
    - From these station visits and I&M Review, zone biologists summarized the following topic priorities:
        - Dakota Zone (Cami Dixon):
            - Prairie Management
            - Noxious/invasive plants

- Prairie Reconstruction
- Research, Inventory and Monitoring

- Southern Zone Refuges (Murray Laubhan):
  - Identification/assessment of monitoring needs (n = 8)
  - Assistance with CCP/HMP biological objectives (n = 8)
  - Assistance with inventory/GIS (n = 7)
  - Management advice (n = 6)
  - Development of monitoring protocols (n = 5)
  - Analysis of data (n = 4)
- Northern Zone (Jeff Warren)
  - Wetland (8 of 12)
  - Upland (7)
  - Riparian management (5)
  - Analyze quality existing or legacy data.
  - Integrating species surveys with habitat components.

3. Staffing

The R6 I&M Program is operated within the R6 Division of Biological Resources (DBR). The DBR Chief provides overall guidance and support for I&M program activities in the region. During the latter part of FY 2010, six R6 I&M positions (Table 1) were filled and the logistical and administrative needs of the program were identified and addressed. One Regional I&M Coordinator was hired and is located in the regional office. Three I&M Zone Biologists were hired and are strategically located in each of Region 6's geographic areas. With the exception of a few field stations, the area of primary responsibility for each zone biologist aligns with the area supervised by R6 Zone Refuge Supervisors. Further, these areas coincide, for the most part, with the five LCC geographic areas in R6 (Great Northern, Great Basin, Southern Rockies, Great Plains, and Plains and Prairie Potholes). In addition, two GIS/Database Specialists were hired to serve the GIS and database needs of the program.

Table 1. Positions, locations, and geographic area of responsibility for support of the U. S. Fish and Wildlife Service Mountain-Prairie Region (Region 6) Division of Biological Resources Staff (*LCC=Landscape Conservation Cooperatives).

Position Title	Staff Name	Location	LCC*	Geographic Area
Chief, DBR	Wayne King	Lakewood, CO	Region-wide	Regional/National
Regional I&M Coordinator	Soch Lor	Lakewood, CO	Region-wide	Regional/National
Zone Biologist	Jeff Warren	Red Rock Lakes NWR Lima, MT	Great Northern Great Basin	Utah, Montana, Wyoming, Brown's Park
Zone Biologist	Cami Dixon	Chase Lake NWR, Woodworth ND	Plains & Prairie Pothole	North Dakota, South Dakota, Medicine Lake, *shared Benton Lake and Bowdoin with J. Warren

Zone Biologist	Murray Laubhan	Quivira NWR Stafford, KS	Great Plains Southern Rockies	Nebraska, Kansas, Colorado, LaCreek
GIS/Database Specialist	Jo Ann Dullum	Benton Lake NWR Great Falls, MT	Region-wide	Montana, Wyoming, Colorado, Utah (project-specific)
GIS/Database Specialist	Jennifer Zorn	Arrowwood NWR Pingree, ND	Region-wide	North Dakota, South Dakota, Kansas, Nebraska (project-specific; RLGIS)

Roles and Responsibilities

A. Chief, Division of Biological Resources

a. Overall guidance and support for R6 I&M program activities
b. Contact for major issues at a regional or national scale that are of a significant or sensitive nature and requires a higher degree of management decision.
c. Project level questions that would require Division Chief review and approval before implementation.
d. Personnel and work related issues.
e. Long-term project involvement or historical institutional knowledge.
f. Budget development, enhancement, tracking, and administration.

B. Regional Inventory and Monitoring Coordinator:

a. Coordinates I&M activities on R6 field stations in collaboration with the LCCs, HAPET, and the National I&M office.
b. Ensures refuge needs are scaled up with the National I&M program and with LCC activities, and with other Service programs.
c. Works closely with Zone Biologists and between the R6 DBR program and other Service programs and the National I&M office to address refuge needs.
d. Support biological monitoring and adaptive management needs at multiple spatial scale by advocating for resources, prepare and submit grant proposals, collaborate with other programs to leverage resources.
e. Provides guidance related to the use of standardized monitoring protocols and databases.
f. Develop inventory and monitoring protocols in collaboration with zone biologists, regional I&M coordinators, HAPET, and the National I&M staff.
g. Assist field stations with study designs, data analysis, report preparation, and reviews of various documents and plans.
h. Works closely with the Planning and Water Resources Divisions to develop quality CCPs, HMPs, and IMPs.

B. Zone Biologists:

a. Serves as the primary support staff to R6 field stations on issues related to biological I&M.
b. Collaborate with field station staff to identify priority and common I&M needs in R6 and LCCs, including conducting initial field station I&M visits as described in this work plan, working with LCC Coordinators, and serving on advisory boards as requested.
c. Assist field stations, as requested by Project Leaders, Zone Supervisors, Regional Refuge Biologist, and Regional I&M Coordinator, with identifying high priority resource management problems and completing CCP, HMP, and step down plans.
d. Provide leadership and technical assistance, as needed, to Station Biologists, Project Leaders and the LCC partnership. Technical assistance may involve leading or serving on work teams; developing and reviewing monitoring protocols, sampling designs, and reports; facilitating contacts and consultations with scientists; facilitating workshops and meetings; and identifying management questions and needs.
e. Assist the Chief, Division of Biological Resources and/or the Regional I&M Coordinator with planning, organizing, and implementing the National and Regional I&M programs.
f. Represent R6 Refuges and participate in or lead, as appropriate, work teams associated with the National and Regional I&M program or associated with I&M needs of the LCC, including the development of I&M protocols, databases, and reporting systems.
g. Assume the role of Project Coordinator, or some other appropriate leadership role, for one or more multi-station adaptive management projects, as needed. This may include developing and reviewing survey protocols and sampling designs; planning and delivering training; ensuring that projects are of high technical quality; publishing results; and assisting with field work.
h. Work with others in R6 and nationally to develop processes for cataloging and extracting useful information from legacy datasets at field stations. This includes assisting field stations that conduct Hydrogeomorphic (HGM) analyses.
i. Test and evaluate protocols, databases, and processes developed by national and regional I&M work groups.

C. Data Managers/GIS Specialists:

a. Develop databases that are identified by field stations
b. Assist field stations with database management, development, and maintenance (e.g., RLGIS).
c. Maintain databases, write programming code, and perform analyses that help achieve goals of the field stations and I&M program.

d. Provide training and technical assistance with GIS and RLGIS.
e. Develops and maintain databases and provide training related to adaptive management projects (e.g., Native Prairie and Reed Canary Grass AM projects)
f. Collaborate with the National I&M Database Managers on national database development, as appropriate.
g. Develop and maintain SharePoint and websites to improve communication.

4. Accomplishments - Activities and Products

Below are summaries of the overall success of the regional program based upon progress made for major work activities and outcomes and anticipated products identified in the work plan and beyond for FY11.

Table 2. Region 6 Accomplishments Report of Inventory and Monitoring for FY2011.

Blueprint Objectives and Tasks	Project or Theme; Status and Accomplishments	Product	I&M Staff	Funding (I=I&M, R=Refuges, O=Other)	Status (P=Planned, F=Funded, IP=In progress, C=Completed)
	REGIONAL I&M PRIORITIES				
	Habitat Management Plans (HMPs)	HMPs for Kulm WMD, Fish Springs, Rocky Mountain Arsenal, Flint Hills, LaCreek, Marais de Cygnes	Zone biologists, database managers, and I&M coordinators	I, R	IP
	Inventory and Monitoring Plans (IMPs)	Kulm and Fish Springs will develop draft IMPs simultaneously with HMPs.	Zone biologists and I&M coordinator		P
	Comprehensive Conservation Plans	CCPs for Benton Lake, Lake Andes, San Luis Valley Complex, Quivara, Cokevill Meadows, Charles M. Russell, Ouray	Cami Dixon, Murray Laubhan, Jeff Warren	R, I&M funding for I&M staff time	IP
1b	Hydrogeomorphic assessment	Quivira, Baca, Monte Vista, and Alamosa	Murray Laubhan	I, R	C, IP
	I&M Review/Station Visits	• Field staff prioritized CCP objectives • Assessment of current inventory, monitoring, and studies on the refuge • Assessment of biological information and science needs to inform management decisions • Surveys are entered into the PRIMR database to roll up field station needs to the national level and also to conduct Part I of the draft I&M Policy.	I&M Staff	I	C

Summary of regional I&M priorities	**Dakota Zone (Cami Dixon):** *Prairie Management *Noxious/invasive plants, *Prairie Reconstruction, *Research, Inventory and Monitoring	Information needs of field stations; rolled up to national priorities	Zone biologist and database managers	I	O
Summary of regional I&M priorities	**Southern Zone Refuges (Murray Laubhan):** *Identification/assessment of monitoring needs (n = 8) *Assistance with CCP/HMP biological objectives (n = 8) *Assistance with inventory/GIS (n = 7) *Management advice (n = 6) *Development of monitoring protocols (n = 5) *Analysis of data (n = 4)	Information needs of field stations	Zone biologist and database managers	I	O
Summary of regional I&M priorities	**Northern Zone (Jeff Warren)** *Wetland (8 of 12) * Upland (7) * Riparian management (5) *Analyze quality existing or legacy data. *Integrating species surveys with habitat components.	Information needs of field stations	Zone biologist and database managers	I	O
	ABIOTIC AND BIOTIC INVENTORIES				
1e	Worked with field stations to conduct vegetation covertype mapping	veg cover	Jen and Jo Ann		
1e	LiDAR: assisted field stations with LiDar mapping assessment - what has been done and not and follow-up work to get these completed for field the field stations (i.e., Bear River, Swan River).	LiDar	Jo Ann		
	Water				
1b	Water Resources Inventory and Assessment (WRIA)	Inventory program: Quivara	Water Resources Division (regional and national),	I, R	O

			Murray Laubhan		
2a	DBR staff met with the R6 Planning and Water Resources division in April to discuss pre-CCP needs in regards to inventory and information needs and data gaps to inform CCP development.	Prioritize tasks related to refuge planning within the Divisions of Biological resources, Planning, and Water.	DBR, Planning, and WRD staff	I, R staff	O
1b	Led subteam to assess status of HGM utilization and evaluate needs and ranking method for funding HGM analysis; develop standards for HGM characterization and data usage across regional and national programs and divisions (Refuge, Planning, WRD) and reporting format.	Standard HGM assessments and report; consistency across refuge, regions, and programs that are involved.	Soch	I	O
	Legacy data				
1c	Worked with National I&M team to develop guidance document (protocol) for compiling, storing, evaluating the quality of, and reporting of legacy data.	Guidance document	Soch, Mike Artmann (Legacy Data Group member)	I, Other (Refuge Planning Division)	O
1a	Collaborate with National staff to develop GRAS database (to capture legacy data)	Database	JoAnn/Jennifer	I	O
1a	I&M staff working with various refuge staff (Seedskadee, Bowdoin, National Bison Range, Charles M. Russell, Rocky Mountain Arsenal, etc.) to analyze legacy data to make management decisions	Data analysis	Zone biologists	I	O
	ADAPTIVE MANAGEMENT				

1f	Native Prairie Adaptive Management Project *Cooperative effort between USGS and FWS *19 stations are participating across MN, ND, SD, and MT with 122 management units Field stations are doing the monitoring of individual units, and implementing the recommended management actions	Coordination, database, decision support tool, management recommendations.	Cami, Jennifer, Justin Dupey, Soch	I, O = PPP LCC funds	O
1f	Secured funding to continue database manager position through FY12	database and decision support tool	Soch	I, O=PPP LCC	C
	DBR staff working with North Dakota State University, University of North Dakota, South Dakota State University to assist with research and data analysis	CESU contract completed	Cami, Soch	I	O
1f	• Reed Canary Grass Adaptive Management Project * 3 stations involved across Region *Rachel Laubhan currently doing coordination *Hand-off to FWS will likely take place in 2012	Coordination, decision support tools, data calls, etc.	Rachel Laubhan, Soch		O
1f	Cattail control multi-station study	Report, manuscripts, protocols	Murray, Soch	I, R=Refuge, O=USGS Northern Prairie	C

1f	Prairie Reconstruction Adaptive Management Project * 4 stations involved with associated research and monitoring efforts across Zone * Working with North Dakota State University, University of North Dakota, South Dakota State University to assist with research and data analysis * DBR staff provides coordination, data management, and partnership development	Information gained to inform management decisions	Cami	I	O
1f	Work with R1 to test and eval. Refuge Habitat Management Actions Database	Database	Zone biologists, R1 staff		O
	Assisted RRL NWR and Montana Fish, Wildlife and Parks (MFWP) in drafting an adaptive harvest plan for moose. Conducted analyses, designed database. Submitted the 2009 ungulate browse work as a Biological Technical Publication; If published, it will function as our methodology to share with others interested in monitoring browse.	Monitoring protocol	Jeff, Wayne, and Richard Keigley	I, R	O
	FIRE				
2b	Collaborateed with USGS NPWRC/Native Prairie AM project/Sean DeKaiser/Caitlin Smith to develop protocol for monitoring effects of fire on habitats	Adaptive Management Study	Cami	I	O
2b	Worked with ND and SD Range Research Pipeline (submitted a proposal for grant to study fire, grazing,etc with a focus on KY blue in the 2 states)	Protocol/report	Cami	I	O
	STRESSORS: INVASIVE SPECIES				

3a	Met with Regional Invasive Species coordinator to discuss I&M needs in regards to invasive species.	Protocols	Jeff and Soch	I	O
3a	Assisted Regional Invasive Species coordinator with mapping weeds on several field stations.	maps of invasive spp.	Jo Ann and Jen	I	O
	WILDLIFE HEALTH				
3b	Worked with Tom Roffe to integrate wildlife health monitoring with I&M program.	meeting with Tom Roffe	Wayne	O	O
3b	Met with Wildlife Health Staff (Diane Borgreen) to discuss possible collaborations between I&M and Wildlife Health programs.		Cami	I	C
3b	Attended meeting with NBR staff, Wildlife Health Office staff, and Montana State University researchers (Clayton Marlow and 2 students) at MSU (Bozeman), to discuss ongoing work regarding bison reproductive performance, habitat selection, and range condition.	information and collaboration/collaboration	Jeff		C
	BIRD MONITORING				
4c	Co-led a team of partners from various agencies and NGOs to convene a workshop to develop a framework for grassland bird conservation at multiple landscape scales, spanning across breeding, migration, and wintering grounds.	draft framework	Soch	I, O=Other programs	O
4c	Serves on national Bird Monitoring team to assess status of bird monitoring on field stations, across regions, and develop steps to implement a nationally coordinated bird monitoring program.	Monitoring program and protocols	Soch	I	O

4c	Marsh bird monitoring and database: support database development (Patuxent) and monitoring efforts on field stations; provided suggestions and comments on monitoring questions and issues related to the National Marsh Bird Monitoring Database.	database and monitoring program	Soch	I	O
4c	Provided comments on the proposal for "Monitoring Secretive Marshbirs for Sound Conservation Decisions at Multiple Scales", drafted by regional and national Mig. Bird staff.	Protocol to monitor marshbirds at multiple landscapes	Soch	I	C
	DATABASE				
7	Developed and maintain SharePoint sites for regional I&M program and for the DBR staff.	Website	Jen	I	C
7	RLGIS: support field stations with installation and assist with training on how to use	database	Jen and Jo Ann	I	O
7	R6 Project and Budget Tracking database	database	Jen and Jo Ann	I	O
7	RFP (Request for Proposal) database	database	Jo Ann and Murray	I	C
7	PRIMR: served on team for development of database and populate the database with station I&M info.	database	Jen and Jo Ann	I	O
7	GRAS: served on team to develop and test	database	Jo Ann	I	O
7	GRAS: provided extensive comments and suggestions on guidance to upload legacy data into GRAS.	database and protocol	All	I	C
7	EnVi veg. classification software: test usage and application at our field station (Fish Springs)	database	Jo Ann	I	O

7	Staff worked with several field stations (Fish Springs, Bowdoin, National Bison Range, Charles M. Russell) to develop station-specific databases.	databases	Jeff and Jo Ann		C
7	Tested and compared RLGIS tool to R1 Refuge Habitat Management Actions Database (RHMAD).	database	Jen	I	C
	LANDSCAPE CONSERVATION COOPERATIVES (LCCs)			I	
	Great Plains Landscape Conservation Cooperative (GPLCC):member of Science Team; reviewed proposals; assisted with development of various informational documents	team member; documents on LCC	Murray	I	O
	Great Northern LCC: Technical Team member; participated in various conference calls and webinar, meetings (Tech team meeting in April 2011; PL meeting Sept. 2011). Provided suggestions and comments on meeting agenda (Tech meeting and Project Leaders meeting)	Team member	Soch	I	O
	Plains and Prairie LCC: "Ad hoc" members: Prepared and submitted list as requested of science needs on field stations in R6.	Team member	Cami and Soch	I	O
	Southern Rockies LCC:techical team member and attended Project Leaders meeting in Sept. 2011	Team member	Wayne	I	O
	Coordinator for 2 workshops as part of a series sponsored by NCTC on "Structured Decision Making Workshops for Landscape Conservation Cooperatives" topics. The workshops are 1) Developing a landscape scale framework for integrated grassland bird conservation and monitoring; 2) Developing a decision framework and communications structure to identify conservation priorities and science needs across FWS programs and for delivery to LCCs	Framework/guidance	Soch	I	O

	• Lead for GNLCC Tri-state trumpeter swan proposal (participants included RRL NWR; Gray's Lake NWR; ; IWJV; HAPET; OMBM; Idaho Department of Fish and Game; Wyoming Fish and Game; Montana Fish, Wildlife and Parks). • Bear River Watershed Conservation Area – assisting BRWCA planning team in selecting focal species and modeling focal species core areas to target conservation actions. • Consulted with The Nature Conservancy and BLM on analysis of survival and habitat selection of radio-marked sage grouse (GNLCC priority species). • Consulted with Missoula Grizzly Bear Recovery Office on analysis of grizzly bear body condition (GNLCC priority species). • Assisted RRL NWR with establishing a graduate project at University of Montana Cooperative Wildlife Research Center.	information and collaboration	Jeff		O
	COMMUNICATION-TRAINING				
	Distributed Regional Annual Work Plan to to field staff, including the HAPET office, to obtain comments and suggestions and to engage with setting regional biological priorities.				
	Conducted 2 webinars to field stations to discuss I&M Program and to obtain input	information sharing	Staff	I, R	

	Dakota Zone Training and Information Sharing Opportunities • Basic Vegetation Monitoring Sessions - South Dakota Session – 50 participants, including biologist, managers, fire staff, maintenance staff, seasonal staff, and TNC staff - North Dakota Session – 30 participants, including biologist, managers, fire staff, seasonal staff • Native Prairie Adaptive Management Project Monitoring Training sessions - South Dakota Session – 20 participants - North Dakota Session - 20 participants • Grazing and Wildlife Workshop, Bismarck, ND - Organized with ND Grazing Coalition - 35 participants, including biologists, managers, fire staff, and seasonal staff, staff of the North Dakota Game and Fish Department, and staff of the Natural Resources Conservation Service (MD and MT) • Prairie Reconstruction Workshop, Madison, SD - 68 participants including FWS staff from R3 and R6, ND Game and Fish Department, South Dakota Game Fish and Parks, TNC, University of North Dakota, North Dakota State University, South Dakota State University, USGS	information sharing and collaboration		I	C
	Communicate I&M activities to the Science Committee to the FWS director and update the regional and national I&M staff about Science Committee activities: data sharing and release, database development and management; provided information to the Science Advisor on how science is being applied in natural resource decision making and example projects to present at two national conferences: Ecological Restoration in July and Ecological Society of America in Aug.	information sharing and collaboration	Soch	I	
	Instructor for "Designing and Implementing a Monitoring Program" NCTC course	Instruction	Soch	I	C

	Instructor for "Biological Fundamentals" course at NCTC	Instruction	Cami	I	C
	OTHER PARTNERSHIPS				
	Worked with the Director of Northern Prairie Wildlife Research Center to develop research needs that will benefit refuges.	Collaboration	Murray	I	C
	Worked with the Director of the Fort Collins Science Center and staff to develop research needs that would benefit refuges.	Collaboration	Murray	I	C
	Assisted Director of Northern Prairie Wildlife Research Center with technical issues regarding a whooping crane research study that involves trapping adults on Aransas NWR.	Collaboration	Murray	I	C
	• Project leader get together – provided a presentation on DBR program • Migratory Birds and oil and gas development meeting with HAPET, Field staff, ND Game and Fish, LCC, PPJV • Water quality issues related to oil and gas development meeting with Ecological Services, Field Staff, ND Game and Fish Department, ND Department of Health, LCC • Multiple meetings with field staff, USGS, LCC, Ducks Unlimited, Regional Easement Coordinator to develop research projects for tile drainage issues • HAPET staff meeting – provided a presentation on DBR • USGS Coop Unit and Southern Illinois University Carbondale – discussions about future research and monitoring efforts	information sharing and collaboration	Cami	I	C

	• Instructor for biological fundamentals course • Presentations to universities (i.e. Valley City State University) • Provided assistance with the development of Sprague's pipit management strategy and guidelines	information sharing and collaboration	Cami	I	
	Sand Lake Station Review		Cami and Soch	I	C
	Rocky Mountain Arsenal Station Review		Murray, Soch, Wayne	I	C
	Coordinated 2 workshops as part of a series sponsored by NCTC on "Structured Decision Making Workshops for Landscape Conservation Cooperatives" topics. The workshops are 1) Developing a landscape scale framework for integrated grassland bird conservation and monitoring; 2) Developing a decision framework and communications structure to identify conservation priorities and science needs across FWS programs and for delivery to LCCs	Framework to identify science needs across FWS programs, to the field stations, and to the LCCs.	Soch	I	O
	Serves on planning committee for the Ecological Society of America's Emerging Issues in Ecology Conference entitled "Developing Ecologically-Based Conservation Targets Under Global Change" to be held at NCTC, March 2012.	Conference/report	Soch	I	O
	Staff collaborating with USGS staff on submergent aquatic vegetation (SAV) analysis and sample design with the ultimate goal of having a workable monitoring protocol for refuges interested in SAV monitoring.	Protocol			C

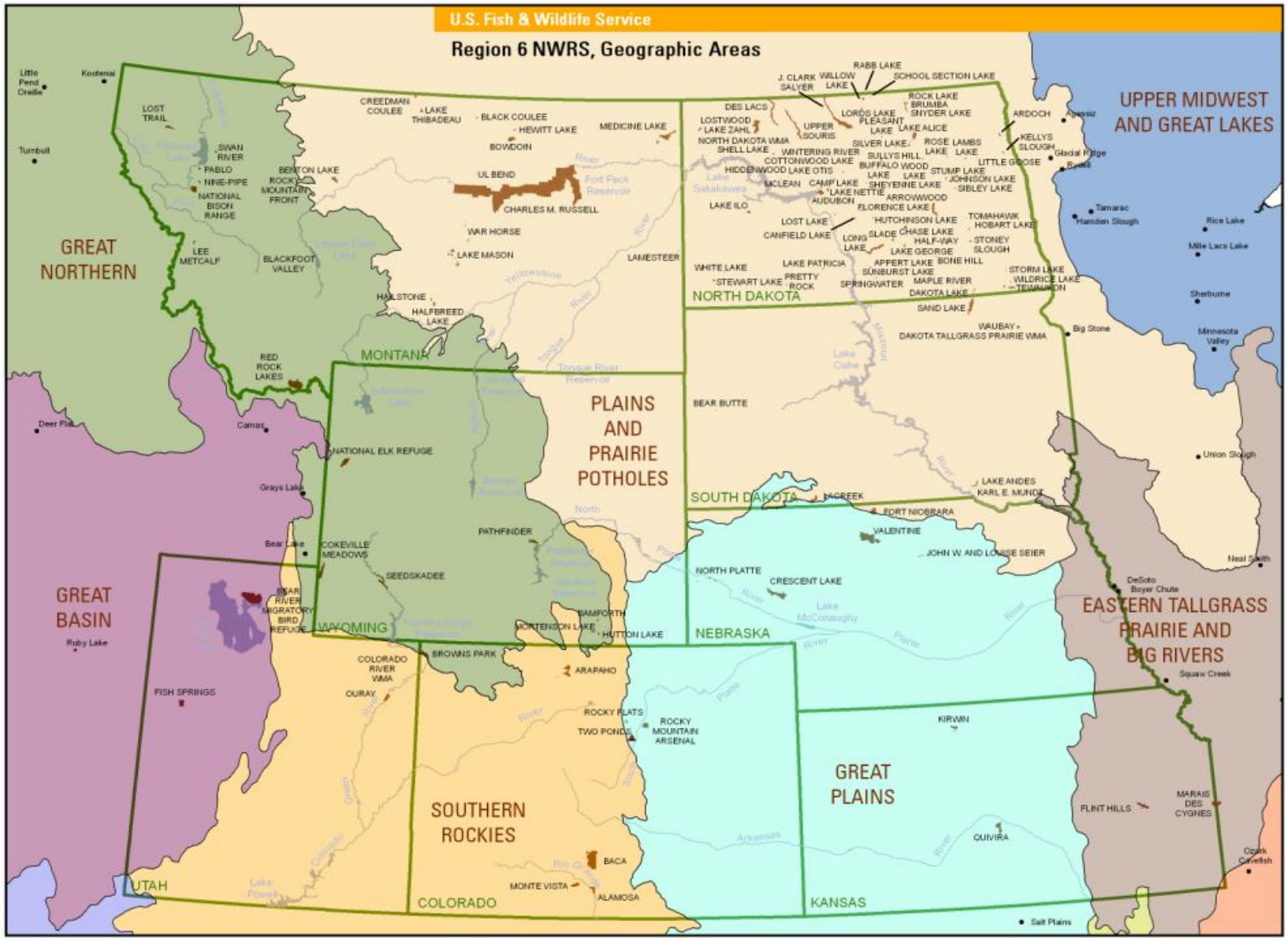
	Staff attended a meeting with HAPET, IWJV, Mig. Birds, and PFW to discuss focal species selection and coordinated bird monitoring.	information sharing and collaboration	Jeff	I	C
	Staff serves on the Montana Tech biology curriculum advisory committee.	Mentorship	Jeff	I	O

5. Budget Narrative and Budget

5.1. Provide a brief description of how the I&M funding was spent during the previous FY, including the major work activities presented in Section 4. List the major planned expenditures of I&M funds, including staff salaries and operations, contracts and agreements.

6. Appendix

6.1. Map of NWRS stations in the Mountain-Prairie Region (6), by state and LCC.


U.S. Fish & Wildlife Service
Region 6 NWRS, Geographic Areas
GREAT NORTHERN
GREAT BASIN
PLAINS AND PRAIRIE POTHOLES
SOUTHERN ROCKIES
GREAT PLAINS
UPPER MIDWEST AND GREAT LAKES
EASTERN TALLGRASS PRAIRIE AND BIG RIVERS
MONTANA
WYOMING
COLORADO
NEBRASKA
KANSAS
NORTH DAKOTA
SOUTH DAKOTA
UTAH
Little Pend Oreille
Kootenai
Turnbull
LOST TRAIL
SWAN RIVER
PABLO
NINE-PIPE
NATIONAL BISON RANGE
BENTON LAKE
ROCKY MOUNTAIN FRONT
LEE METCALF
BLACKFOOT VALLEY
CREEDMAN COULEE
LAKE THIBADEAU
BLACK COULEE
HEWITT LAKE
MEDICINE LAKE
BOWDOIN
UL BEND
CHARLES M. RUSSELL
WAR HORSE
LAKE MASON
LAMESTEER
HAILSTONE
HALFBREED LAKE
RED ROCK LAKES
Deer Flat
Camas
NATIONAL ELK REFUGE
Grays Lake
Bear Lake
COKEVILLE MEADOWS
SEEDSKADEE
PATHFINDER
BAMFORTH
MORTENSON LAKE
HUTTON LAKE
BROWNS PARK
ARAPAHO
COLORADO RIVER WMA
OURAY
FISH SPRINGS
Ruby Lake
ROCKY FLATS
TWO PONDS
ROCKY MOUNTAIN ARSENAL
BACA
MONTE VISTA
ALAMOSA
DES LACS
LOSTWOOD
LAKE ZAHL
NORTH DAKOTA WMA
SHELL LAKE
UPPER SOURIS
J. CLARK SALYER
WILLOW LAKE
RABB LAKE
SCHOOL SECTION LAKE
ROCK LAKE
BRUMBA
SNYDER LAKE
LORDS LAKE
PLEASANT LAKE
LAKE ALICE
SILVER LAKE
ROSE LAKE
LAMBS LAKE
WINTERING RIVER
SULLYS HILL
COTTONWOOD LAKE
BUFFALO WOOD LAKE
HIDDENWOOD LAKE
OTIS
MCLEAN
CAMP LAKE
LAKE NETTIE
SHEYENNE LAKE
STUMP LAKE
JOHNSON LAKE
SIBLEY LAKE
AUDUBON
ARROWWOOD
FLORENCE LAKE
LAKE ILO
LOST LAKE
HUTCHINSON LAKE
TOMAHAWK
HOBART LAKE
CANFIELD LAKE
SLADE
CHASE LAKE
LONG LAKE
HALF-WAY LAKE
STONEY SLOUGH
LAKE GEORGE
WHITE LAKE
LAKE PATRICIA
APPERT LAKE
BONE HILL
SUNBURST LAKE
STORM LAKE
STEWART LAKE
PRETTY ROCK
SPRINGWATER
MAPLE RIVER
WILDRICE LAKE
DAKOTA LAKE
SAND LAKE
WAUBAY
DAKOTA TALLGRASS PRAIRIE WMA
BEAR BUTTE
LAKE ANDES
KARL E. MUNDT
LACREEK
FORT NIOBRARA
VALENTINE
JOHN W. AND LOUISE SEIER
NORTH PLATTE
CRESCENT LAKE
Lake McConaughy
KIRWIN
QUIVIRA
ARDOCH
KELLYS SLOUGH
LITTLE GOOSE
Glacial Ridge
Agassiz
Tamarac
Hamden Slough
Rice Lake
Mille Lacs Lake
Sherburne
Minnesota Valley
Big Stone
Union Slough
Neal Smith
DeSoto
Boyer Chute
Squaw Creek
FLINT HILLS
MARAIS DES CYGNES
Ozark Cavefish
Salt Plains